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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,810

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Cor Jansen

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EXAMINER

ROGERS, MARTIN K

ART UNIT

PAPER NUMBER

1791

MAIL DATE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



<b>Office Action Summary</b>	<b>Application No.</b> 10/583,810	<b>Applicant(s)</b> JANSEN ET AL.	
	<b>Examiner</b> MARTIN ROGERS	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/22/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/22/2006</u> .   | 6) <input type="checkbox"/> Other: ____.                          |



## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, applicant claims that the “phosphor” content of the polyester be between 10 to 200 ppm. However, phosphors are material which are capable of emitting light during phosphorescence are typically comprised of transition metal or rare earth compounds, which are not mentioned in either the claim or the specification. Because of this, the examiner believes that applicant intended to claim that either the -- phosphorous -- or the -- phosphate -- composition in the polymer is from 10 to 200 ppm and has examined the claim under these interpretations. Claims 2-16 are dependent on claim 1.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



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2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 5, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873).

In regards to claim 1, Fagerburg teaches a composition for food packages (Column 1, lines 16-18) which contains at least 85 mole % of a terephthalic acid which is reacted with ethylene glycol (Column 3, line 36) to make PET (Column 3, lines 29-30). 0.1 to 0.5 mol% of a polyester modifier with an aromatic ring and the required structure (Column 2, lines 54-68 and Column 3, lines 1-4) are also present. The polyester modifiers contain sodium (Column 3, line 12) as an alkali metal and the final product contains up to 3% diethylene glycol (Column 3, lines 42-44). The polyester has an inherent viscosity ranging from 0.3 to 0.9.

Fagerburg is silent as to the presence of  $\text{Na}_2\text{HPO}_4$  but do teach that a titanium catalyst is present for the etherification reaction.



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Banach discloses that when using a titanium catalyst to create PET, it is beneficial to add a phosphate-forming compound such as  $\text{Na}_2\text{HPO}_4$  (Column 4, lines 33-34) for the benefit of increasing the reactivity of the system (Column 4, lines 25-27). Banach discloses that the catalyst will be present in the amount of 25 ppm to 500 ppm and that the  $\text{Na}_2\text{HPO}_4$  be present in the amount of 10% to 85% of the weight of the titanium catalyst and a lanthanide catalyst (Column 4, lines 49-52). The tetra-n-butyl titanate catalyst used has a molar weight of 340 g/mole, the acetylacetone (Column 3, line 57) also used in the catalyst has a molecular weight of 100.13 g/mol, and the  $\text{Na}_2\text{HPO}_4$  used has a molecular weight of 142 g/mole. Assuming a starting concentration of 250 ppm of titanium catalyst and a 90:10 (Column 4, line 6) molar ratio of titanium catalyst to acetylacetone, there would be a total of 258.2 ppm of catalyst. If the  $\text{Na}_2\text{HPO}_4$  is present in the amount of 50% of the catalyst (Column 4, lines 49-50), this gives a total of 129.1 ppm of  $\text{Na}_2\text{HPO}_4$ . This translates to 28.18 ppm of phosphorus alone or 86.36 ppm of phosphate. Because the  $\text{Na}_2\text{HPO}_4$  is oxidized to form a phosphate (Column 4, lines 21-24), it is the examiner's position that there will not be any  $\text{Na}_2\text{HPO}_4$  in the polyester. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include  $\text{Na}_2\text{HPO}_4$  within the required concentration ranges for the benefit of increasing the reactivity of the system.

In regards to claims 2 and 3, Fagerburg further discloses using an aromatic nucleus.



In regards to claim 5, Fagerburg further discloses that sodium is used (Column 3, line 12).

In regards to claim 7, Fagerburg et al. do not disclose the addition of any other modifying agents other than the difunctional sulfo-monomer (Column 2, line 49). It is therefore the examiner's position that there are none present in the polyester formed.

In regards to claim 12, Fegerson further discloses that the container be formed by biaxial stretching (Column 1, line 20).

4. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 1 above, and further in view of Abe et al. (Japanese Patent 03146710).

In regards to claims 4 and 15, Fagerburg is silent as to the location of the bonds on the aromatic ring. Abe shows that it was well known in the art and therefore would have been obvious to one of ordinary skill in the art at the time of the invention to have the carboxylic side groups of the monomer be in the 3 and 5 position relative to the sulfate (English Language Abstract of JP 03146710).



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5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 1 above, and further in view of Amano et al. (USP 6096683).

In regards to claim 6, the previous combination is silent as to the form of Na<sub>2</sub>HPO<sub>4</sub>. Amano discloses that it was well known in the art and therefore would have been obvious to one of ordinary skill in the art at the time of the invention to include the dodecahydrate (Column 8, line 7) form of Na<sub>2</sub>HPO<sub>4</sub>.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 1 above, and further in view of Schmidt et al. (Pre Grant Publication 2002/0177686).

In regards to claim 8, Fagerburg discloses that it is beneficial to minimize the critical stretch ratio in order to decrease the parison wall thickness and reduce processing time (Column 7, lines 19-30) but does not explicitly state what the NSR of the container is.

Schmidt discloses that it was well known in the art at the time of the invention to blow mold PET based (Abstract) containers with an NSR in the required range ([0073]). Therefore, one of ordinary skill in the art at the time of



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the invention would have found it obvious to engineer the resin to have an NSR in the required range for the benefit of minimizing the processing time.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 1 above, and further in view of Po' et al. (USP 5252282).

In regards to claim 9, the previous combination is silent as to the crystallization half time of the material. Po discloses when modifying terephthalic acid polyesters with aromatic comonomers, it was well known in the art and therefore would have been obvious to one of ordinary skill in the art to have the resin possess a crystallization half time within the required range (Figure 1).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 1 above, and further in view of *PET Packaging Technology* (hereinafter referred to as PPT).

In regards to claim 10, the previous combination teaches that the container be biaxially oriented (Column 1, line 20) but is silent as to the stretch ratios used in creating the PET container. The PPT teaches that it was well known in the art and therefore one of ordinary skill in the art at the time of the



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invention would have found it obvious to have an axial (hoop) stretch ration of 2.75 (Page 206, Chapter 7.6.6).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 1 above, and further in view of Fagerburg et al. (USP 4499262).

In regards to claim 11, the previous combination discloses that the PET container be used for beverages (Column 1, line 17) but is silent as to the volume of the container. Fedderson discloses that it was well known in the art and therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to create a beverage container that is a half of a liter in volume (Column 10, lines 38-39).

In regards to claim 14, the previous combination discloses that the PET container be used for beverages (Column 1, line 17) but is silent as to the volume of the container. Fedderson discloses that it was well known in the art and therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to create a beverage container that is a half of a liter in volume (Column 10, lines 38-39).



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9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over the previous combination of Fagerburg et al. (USP 4499262) in view of Banach et al. (US 5902873) as applied to claim 12 above, and further in view of *PET Packaging Technology* (hereinafter referred to as PPT).

In regards to claim 13, the previous combination teaches that the container be biaxially oriented (Column 1, line 20) but is silent as to the stretch ratios used in creating the PET container. The PPT teaches that it was well known in the art and therefore that one of ordinary skill in the art at the time of the invention would have found it obvious to have an axial (hoop) stretch ratio of 2.75 (Page 206, Chapter 7.6.6).

In regards to claim 16, the previous combination discloses that the PET container be used for beverages (Column 1, line 17) but is silent as to the volume of the container. Fedderson discloses that it was well known in the art and therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to create a beverage container that is a half of a liter in volume (Column 10, lines 38-39).

### ***Double Patenting***

10. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151



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U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

11. Claims 1-9 rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-9 of prior U.S. Patent No. 7473755. This is a double patenting rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN ROGERS whose telephone number is 571-270-7002. The examiner can normally be reached on Monday through Thursday, 7:30 to 5:00, and every other Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MR

/Richard Crispino/  
Supervisory Patent Examiner, Art Unit 1791